

T. E. PALING.
VARIABLE INDUCTANCE.
APPLICATION FILED DEC. 8, 1911.

1,054,862.

Patented Mar. 4, 1913.

Fig. 1

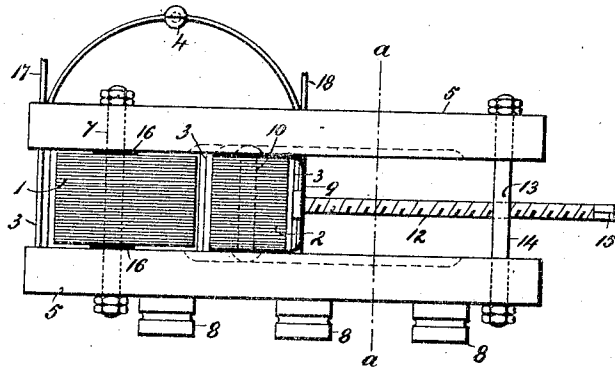


Fig. 2

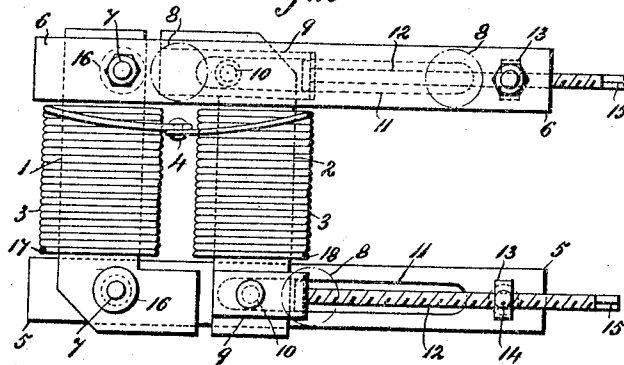
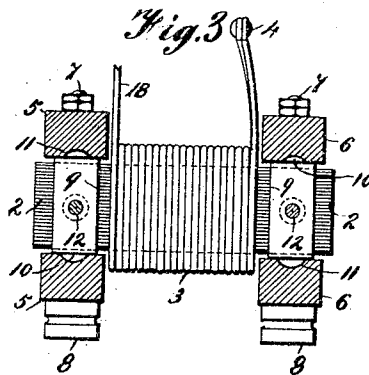


Fig. 3



Witnesses.

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VARIABLE INDUCTANCE.

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To all whom it may concern:

Be it known that I, THOMAS EDWARD PALING, a citizen of the Dominion of Canada, residing at the town of Dundas, in the county of Wentworth, in the Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Variable Inductances, of which the following is a specification.

This invention relates to current economizers or reducers for changing the voltage and amperage of an alternating electric current such as is usually supplied to kinematographic or moving-picture machines and the like.

The main object of my invention is to provide an improved device of the character set forth with the parts so arranged with relation to each other that a very accurate adjustment of these parts, and consequently, a very accurate control of the current used, may be had.

Another object is to provide an economizer which effectively insures a steady and "non-flickering" light whether the current supplied is of the maximum or lower potential.

A further object is to furnish an economizer by which the amperage may be regulated without shutting off the current and without adjusting and locking any of the parts.

A still further object of my invention is to provide a simple and effective device which is compact in form, cheap to construct, durable in use, and easy to manipulate.

With the foregoing and other objects in view, my invention consists of certain novel features of construction and the combination and arrangement of parts hereinafter fully described and pointed out by the appended claim.

The accompanying sheet of drawings is in illustration of one practical embodiment of my invention, and in which:—

Figure 1, is a side elevation of the complete device; Fig. 2, is a plan of the same with part removed for the sake of clearness as hereinafter explained; and Fig. 3, is a sectional elevation taken on the line *a—*a** in Fig. 1, and looking toward the left hand.

According to the embodiment of my invention illustrated I build up two cores, 1, 2, of thin sheet iron laminae, cut or stamped out somewhat L-shaped in plan, as will be readily understood on a careful examination more particularly of Fig. 2. These cores 1, 2, are each wound about with continuous wire coils 3, which are conveniently connected together by any appropriate form of coupling 4, for the purpose hereinafter stated; or, said windings 3, may be continuous from the core 1, to the core 2, or vice versa, with a sufficiency of slack wire between adjoining ends to allow of lateral adjustment.

5, 5, 6, 6, are non-magnetic clamping bars for holding the cores 1, 2, in position, and it is to be particularly noted that the core 1, is firmly clamped therebetween by means of through bolts, 7, 7; whereas the other core 2, is made laterally adjustable as hereafter explained.

8, 8, 8, are supporting feet for the device, and they are preferably made of porcelain or other suitable insulating material.

Guide rods or pins—not shown—may be arranged vertically through the ends of the cores 1, 2, to aline the laminae and prevent their displacement when the bolts 7, 7, are removed.

In order to provide a ready means for adjusting the "gap" between the two coils and cores 1, 2, I mount the core 2, in laterally movable U-shaped straps 9, 9, which are clamped to said core 2; by through bolts or rivets 10, 10, the heads whereof are adapted to fit snugly into longitudinal grooves 11, 11, formed for their reception in the inner faces of the aforesaid clamping bars 5, 5, 6, 6.

Passed through holes in the intermediate parts of the aforesaid U-shaped straps 9, 9, are headed screws 12, 12, which are threaded through eye-pieces, 13, 13, in the through bolts 14, 14, which serve to position the free ends of the clamping bars 5, 5, 6, 6. Each of the screws 12, 12, is adapted at its free end 15, to receive a key, or other device for effecting its revolution.

16, 16, are washers of identical thickness to that of the material constituting the U-shaped straps 9, 9, so that the depth of each core is identical.

17, is the leading-in wire from the main, and 18, is the connection to the kinematographic machine leading-in wire.

In Fig. 2, the upper clamping bar 5, is removed in order to clearly illustrate the parts 7, 9, and 11.

Obviously the size of the cores 1, 2, as well as the number of convolutions in the windings will depend upon service requirements.

From the foregoing description and annexed sheet of drawings the construction and operation of the invention will be readily understood and it will be clear to all skilled in the art that when the cores 1, 2, are moved toward or away from each other the degree of magnetic inductance in the circuit will be relatively increased or decreased whereby the current is proportionately retarded.

Various changes in the form, proportion and details of construction as well as other combinations and arrangements of the same will be self-evident to adapt my invention to different requirements, for example any appropriate means may be employed whereby the two screws are simultaneously rotated in either direction or both cores may be made movable, and I wish it clearly understood that it is intended to include all such within the present specification and as limited by the appended claim.

Having thus described my invention, what I claim is:

A device of the character described comprising spaced supports, each of said supports comprising a pair of vertically spaced, longitudinally extending, parallel members, a laminated core provided with a continuous winding of wire, said core spanning the space between said supports with its ends disposed between said vertically spaced members, means for securing said core in fixed relation to said supports, a second laminated core having a continuous winding of wire connected in series with the winding of the first named core, U-shaped straps embracing said second core, guide means carried by said second core, said longitudinally extending members having guideways formed in their inner faces in which said guide means engage, threaded elements carried by said spaced supports, and threaded adjusting members engaging said threaded elements, said adjusting members engaging said straps.

Signed at Hamilton, Ontario, this 4th day of December, 1911.

THOMAS EDWARD PALING.

In the presence of—
ALFRED T. BRATTON,
ROY JONES.